CHAPTER IV

KEY ISSUES AFFECTING FUTURE CLEANUP

Although the size, scope, and cost of the cleanup program have grown beyond expectations, a variety of other factors will also affect whether the Department of Defense will be able to meet its cleanup objectives. Are its cleanup goals realistic? Will cleanup standards be flexible enough to permit cost savings? How should the department approach cleaning up bases that are scheduled to be closed? What funding priorities should apply among environmental programs that are competing for resources, if cutbacks occur?

OPTIMISTIC PROGRAM GOALS

The department's modest progress with its cleanup program has not met the goals set in 1991, which suggests that current goals may also be too optimistic. In September 1991, DoD planned to have completed all the preliminary assessments and site inspections by the end of 1992. According to the Defense Environmental Cleanup Program's *Annual Report to Congress for Fiscal Year 1993*, the department has completed about 96 percent of the required preliminary assessments and, according to Congressional Budget Office estimates, about 83 percent of the site investigations. The 1991 plan called for all remedial investigations and feasibility studies to be under way by 1993 and completed by 1996. But as of April 1994, only about 50 percent of the active sites were in the RI/FS phase, and only 20 percent had completed that stage. Finally, the 1991 plan projected that the program would be completed--that is, either all sites cleaned up or remediation technology in place--by about 2010. The department has not revised that estimate, although it is reexamining program objectives.

CURRENT LEGISLATION AND ITS STRINGENT CLEANUP STANDARDS

Cleanup standards are also likely to have a significant impact on DoD's ability to meet its objectives for the cost and schedule of cleanup. Although various federal laws such as the Toxic Substances Control Act, the Clean Water Act, the Clean Air Act, and the Solid Waste Disposal Act contain certain cleanup standards that must be met, the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) provides that in cases in which federal and local standards differ and states' standards are more stringent, the

latter standards and requirements take precedence.[1] Guided by existing legislation and local standards and requirements, federal and local representatives normally negotiate cleanup standards for individual cleanup projects. When they are unable to agree, however, questions arise about which standards to apply.

Disagreement about what may be an appropriate standard may reflect a conflict over whether CERCLA or the Resource Conservation and Recovery Act of 1976 (RCRA) should govern the cleanup.[2] Both laws govern the cleanup of hazardous wastes but are implemented through different authorities, which could prefer different standards for cleanup. CERCLA directs the Department of Defense to remediate a hazardous waste site in consultation with the Environmental Protection Agency and state authorities. RCRA delegates authority to direct the cleanup of contaminated sites to EPA, which in turn delegates implementing authority to the states.

More stringent cleanup standards are costly to meet and usually take more time. Information that describes how widespread the problem of differing standards may be is not currently available; individual cases, however, such as the Rocky Mountain Arsenal in Colorado and George and Mather Air Force bases in California, suggest that the impact can be substantial. In April 1993, the U.S. Court of Appeals for the Tenth Circuit ruled that the state of Colorado could exercise authority under RCRA to direct cleanup actions taken at the Rocky Mountain Arsenal. The Army, EPA, and Colorado have not yet agreed on final cleanup standards for the arsenal, but the Army believes that stricter standards, if ordered by the state, would add significantly to the estimated $2.3 billion needed to remediate the property according to the Army's plan. Similarly, the Air Force estimated that California's more stringent standards for cleaning up groundwater at George and Mather Air Force bases would add one-time costs of about $500,000 for remediation equipment and almost $200,000 annually for operation and maintenance.

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1. 42 U.S.C. 9621d.

2. The Comprehensive Environmental Response, Compensation, and Liability Act as amended by the Superfund Amendments and Reauthorization Act of 1986 establishes policies and procedures governing the identification, investigation, and cleanup of past releases--or impending releases--of hazardous wastes, including those on defense property. The Resource Conservation and Recovery Act of 1976 as amended by the Hazardous and Solid Waste Amendments (HSWA) of 1984 establishes a program, governed by states authorized by EPA, to manage the handling of hazardous wastes, including those on defense property. HSWA, like CERCLA, also governs the investigation and cleanup of existing waste sites but includes some requirements that differ from those in CERCLA. For DoD installations that need a RCRA permit to manage hazardous wastes, EPA or authorized states may require corrective cleanup actions for hazardous wastes released from solid waste management units on the installation. The standards that those corrective actions must meet may differ from the standards that might be required under CERCLA.

Appropriate standards of cleanup, however, may not necessarily be the most stringent standards. Many analysts believe that cleanup standards should reflect the likely use of contaminated property rather than require cleanup actions that would ensure unrestricted use in the future. Military airfields that are being closed, for example, may be more likely to be reused as commercial airfields than, say, as residential property. The cleanup standards appropriate for remediating hazardous waste at an operational airfield are likely to be less demanding than those for residential areas unless the contamination poses a threat to human health and safety. Some Members of Congress have supported, changes to legislation permitting cleanup standards to reflect "reasonably anticipated future land uses," and those changes could result in considerable savings in cleanup costs.[3] Unless the Congress adopts such a provision, however, current legislation requiring more stringent cleanup standards will remain in effect.

REDUCED CLEANUP TIME TO ACCELERATE THE REUSE OF DEFENSE PROPERTY

Reducing the time it takes to clean up hazardous waste on defense facilities that are scheduled to be closed is particularly important in order to accelerate the reuse of the property to help offset local economic losses. The timing of cleanup can be an important factor in aiding recovery. The Defense Base Closure and Realignment Act of 1990, as amended, requires that DoD complete all base closures and realignments approved by the Congress within six years of receiving the President's recommendations.[4] In addition, CERCLA requires DoD to certify that "all remedial action necessary to protect human health and the environment" has been taken before any property may be sold or transferred. In effect, those laws require DoD to complete environmental cleanup work within six years on former defense properties that are expected to be sold or transferred to nonfederal jurisdictions or to the private sector.

Since the communities affected by the closing of military bases are anxious to offset lost revenues, they have a strong incentive to ensure that DoD complies with the requirements of CERCLA and the procedures of the Base Closure and Realignment Commission (BRAC), or that the department uses other means to accelerate the reuse of former defense property at least on an interim basis. In October 1992, the Congress enacted legislation to

3. Superfund Reform Act of 1994, S. 1834, 103rd Cong., 2nd Sess., p. 104.

4. Defense Base Closure and Realignment Commission, *1993 Report to the President* (July 1, 1993), p. A-7.

assist communities in achieving their goals. The Community Environmental Response Facilitation Act directed DoD and other federal agencies to identify uncontaminated parcels of land, including property located on installations on the National Priorities List, that could be sold or transferred without requiring any cleanup. As of August 1994, DoD had identified more than 150,000 acres of uncontaminated property on closing defense facilities that could be sold or transferred without delay.

Leasing property to private concerns or transferring property to other federal agencies is also an effective way to accelerate reuse of former military bases.[5] Although DoD remains liable for cleaning up contaminated property that it has leased or transferred, it is not required to complete its work before the date of such transactions. Cleanup of contaminated sites located on those parcels, though not constrained by schedules for closing bases, is governed by schedules and standards agreed on by DoD, EPA, and state regulatory authorities. To date, DoD has completed or is negotiating some 75 leases for property located on defense facilities scheduled to be closed. DoD has transferred ownership of approximately 40 parcels to new owners, some of which are other federal agencies.

New remediation technology can also reduce the time it takes to clean up hazardous wastes. But DoD, EPA, and state regulators have been reluctant to endorse the use of new technologies that have not been fully demonstrated. They have been more likely to adopt more traditional remediation techniques whose costs and effectiveness are better known. Efforts are under way, however, to promote the validation and certification of new, time-saving remediation technologies. As part of its "Fast Track Cleanup Program," DoD has established teams for cleaning up bases and charged them with identifying and encouraging the use of new, more efficient remediation technologies. DoD, in partnership with the Western Governors Association, is also promoting the use of new technologies through the Develop On Site Innovative Technology Program, an interagency cooperative effort to develop guidelines for general acceptance of remediation technologies.[6]

Under current practices, remediation technology is selected on a case-by-case basis and incorporated into records of decision that set out remediation plans. Although various programs such as those cited above are under

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5. For a discussion of ways to accelerate reuse of property on bases scheduled to be closed, see *The Report of the Defense Environmental Response Task Force* (August 1991).

6. Statement of Sherri W. Goodman, Deputy Under Secretary of Defense for Environmental Security, before the Subcommittee on Installations and Facilities of the House Committee on Armed Services, April 20, 1994.

way to encourage the use of new technologies, no standards or procedures that govern their validation and certification exist. The lack of such standards and procedures contributes to the unwillingness of various interested parties to take risks in applying new, more efficient technologies.

The Congress has, on the one hand, sought to encourage acceptance and broad application of new remediation technologies. Title IV of the National Environmental Technology Act of 1994 outlines a program to establish standards and procedures for testing and validating remediation technologies that would permit their widespread application. On the other hand, the Congress has not fully supported DoD's requests for funding. In 1994 and 1995, the Congress denied DoD's request for funds for the Defense Environmental Restoration Account earmarked to gain regulators' acceptance of new cleanup technologies for wider application. The Congress, however, provided a small amount in 1995--about $10 million--to support acceptance of new technologies through DoD's Innovative Environmental Security Technology Program.

INCREASED COMPETITION FOR FUNDING

Although funding for DoD's environmental programs has grown dramatically during the past 10 years, further growth is unlikely in view of the cutbacks planned for defense spending over the next few years. Competition for funding is likely to become increasingly intense as the department reduces its spending. Still, spending on environmental programs constitutes a very small portion of DoD's overall budget and could grow even in a constrained budget environment if DoD and the Congress chose to increase spending needed to meet the environmental cleanup standards required by law.

The rapid growth in the rate of environmental spending during the past decade stems partly from DoD's having spent so little of its budget on the environment 10 years ago. In 1984, spending on environmental programs totaled less than one-tenth of one percent of DoD's budget; it is now slightly more than 2 percent (see Table 4). As of January 1994, the department had no plans to increase environmental spending beyond 1995, however, and in fact projects major cutbacks during the next several years.

Competition for funding will increase not only among the appropriation accounts within the defense budget such as procurement, research and development, and operation and maintenance (which contains funding for environmental programs) but also among environmental programs. In 1984, DoD restructured its environmental budget to consolidate funding for

environmental programs into a single line item. As a result, all elements of the defense environmental program except the BRAC cleanup--Compliance and Pollution Prevention, the Defense Environmental Restoration Program, Environmental Research and Development, and Conservation--have greater visibility, and relative priorities and trends are easier to identify. DoD examines alternative approaches to spending for environmental programs as a part of its program budget review.

Shares of spending for various elements of the environmental program were relatively constant between 1990 and 1993 and, according to current plans, will remain so during the next five years. Priorities in spending shifted, however, beginning in 1994. Between 1990 and 1993, the department allocated more funds to handling and storing hazardous wastes than to cleanup. During the 1990-1993 period, DoD spent about $6.1 billion on compliance--about 49 percent of funding for all environmental programs. Spending on cleanup during that period amounted to $5.8 billion, or approximately 46 percent of the total. Since then, however, DoD has allocated slightly more funding to cleanup than to compliance. In 1994, for

TABLE 4. DoD's SPENDING FOR ENVIRONMENTAL PROGRAMS, 1984-1994 (In millions of 1995 dollars of budget authority)

	Environmental Spending	Total Defense Spending	Environmental as a Percentage of Total Defense Spending
1984	213	366,421	0.1
1985	431	390,479	0.1
1986	481	373,215	0.1
1987	490	359,185	0.1
1988	510	351,733	0.1
1989	608	346,705	0.2
1990	1,617	339,091	0.5
1991	2,835	304,495	0.9
1992	3,949	304,536	1.3
1993	4,209	279,563	1.5
1994	5,546	254,445	2.2

SOURCE: Congressional Budget Office using data from the Department of Defense.

example, it spent almost 48 percent of environmental funding on cleanup and about 43 percent on compliance. During the next five years, the department plans to spend about 48 percent of its total environmental budget on cleanup (about $11.7 billion) and about 47 percent ($11.4 billion) for compliance (see Table 5).

If the cost of remediation increases significantly beyond current expectations and necessitates budgetary increases for cleanup to meet legal requirements, DoD might have to make offsetting reductions to spending for compliance and pollution prevention. Funding for research and development and for conservation in 1995 totals about 6 percent of environmental funding, and financing the overruns in the cost of remediation by cutting R&D and conservation would devastate those programs. Moreover, reduced funding for research and development would jeopardize the potential for developing more efficient remediation technologies that would help to control future costs.

TABLE 5. DoD's SPENDING FOR MAJOR ENVIRONMENTAL PROGRAMS AS A PERCENTAGE OF TOTAL ENVIRONMENTAL SPENDING, 1990-1999

		Cleanup		
	Compliance	DERA	Environmental Restoration of Closing Bases	Environmental R&D
Actual				
1990	57	43	0	0
1991	44	42	12	3
1992	53	31	14	2
1993	45	29	13	9
1994	43	36	11	6
Projection				
1995	46	38	10	4
1996	46	39	10	3
1997	48	38	8	4
1998	46	40	8	4
1999	48	40	8	2

SOURCE: Congressional Budget Office using data from the Department of Defense.

NOTE: DERA = Defense Environmental Restoration Account; R&D = research and development.

CHAPTER V

STRATEGIES FOR CONTROLLING FUTURE CLEANUP COSTS

Given the dramatic growth in spending devoted to environmental programs, the limited progress made to date in cleaning up defense facilities, and the probability that current spending plans might not allow the Department of Defense to meet existing requirements, the Congress may want to consider various ways to meet the twin goals of efficiently remediating the most pressing contamination problems and returning as many sites as possible to usable condition. Potential solutions could incorporate both near-term and long-term approaches. The following sections analyze the relative merits and difficulties of such approaches.

STEPS DoD COULD TAKE TO CONTROL COSTS IN THE NEAR TERM

Since the outset of DoD's environmental cleanup program, the department has been able to provide sufficient funds to meet existing legislative and regulatory requirements. Consequently, it has not needed to establish priorities to govern funding for environmental programs and individual cleanup projects. However, if the costs of environmental programs increase beyond DoD's ability to meet legislative and regulatory requirements, the department will need to set priorities among competing demands for funding.

Applying a zero-based budgeting approach that ranks environmental programs and projects according to priority could ensure that the cleanup program met its most pressing requirements while remaining within budgetary constraints. Once DoD completed its ranking of programs and projects, the department would fund the most important cleanup tasks first, ensuring progress for those sites in accordance with negotiated cleanup standards and schedules. As the availability of funds shifted from year to year, cleanup activities with a lower priority could be delayed if necessary without affecting progress on those having a higher priority. Both DoD and the Department of Energy have developed models based on setting priorities that could assist in supporting zero-based budgeting.

What sorts of priorities might be appropriate to guide future funding if choices must be made? Some, such as funding cleanup of the most seriously contaminated projects--contaminated sites posing the greatest threat to health and safety--would maintain the government's current policy. The most

seriously contaminated defense sites are located on installations included on the National Priorities List, and cleaning up sites that pose the most serious risks to health and human safety on those bases clearly deserves the highest priority.

A "worst-first" policy, however, could be modified to ensure that the department assigned priority to remediating only the most threatening contaminated sites located on NPL defense installations. According to current practices, DoD installations that are heavily contaminated qualify for the NPL on the basis of an aggregate Hazard Ranking System score for the entire facility. Dozens of individual sites may be located on such a facility, however--some more contaminated than others--and they all contribute to the aggregate score.[1] According to DoD's figures, the 107 defense installations included on the NPL include some 5,500 individual contaminated sites.

Although the Hazard Ranking System is useful in identifying contaminated sites that pose the greatest risk to public health and safety, applying it is a time-consuming and expensive process. The department therefore applies it only to areas for which preliminary investigations reveal a likelihood of serious contamination. The department needs a timely, less costly method of assessing contamination to assist in determining the relative threat that individual sites pose to health and the environment.

Some Members of Congress have recognized that need and favor improved methods of assessing the risk to health and safety of local populations as a means of determining cleanup priorities. A bipartisan group introduced a bill during the 103rd Congress to establish guidelines for systematically characterizing the potential adverse health or ecological effects of exposure to environmental hazards. The Risk Assessment Improvement Act would establish a pilot project enabling scientists to rank dissimilar hazardous materials according to their risk to the population.[2] Improved risk-assessment methods such as the legislation proposes could assist in establishing cleanup priorities among all contaminated sites, including those listed on the NPL.

When setting priorities, policymakers should also consider alternative approaches to cleaning up property on military bases that are scheduled to be closed. Although leasing contaminated property on those bases or transferring it to other federal agencies may be preferable in some cases, completing

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1. See General Accounting Office, *Environmental Cleanup: Too Many High Priority Sites Impede DoD's Program*, GAO/NSIAD-94-133 (April 1994), p. 9.

2. Risk Assessment Improvement Act of 1994, H.R. 4306, 103rd Cong., 2nd Sess., pp. 14-15.

environmental cleanup actions quickly to aid in local economic recovery may be more useful in others. The Comprehensive Environmental Response, Compensation, and Liability Act requires that DoD clean up its property before it can sell or transfer the title to private purchasers or buyers other than federal agencies. Property that has been cleaned up is attractive to investors who wish to avoid the risks of dealing with hazardous wastes, and revenues generated by the sale or transfer of "clean" property can be used to support other environmental cleanup activities at bases that are scheduled to be closed. Clean property that is ready for immediate reuse can also benefit the local economy. DoD could assign priority to those contaminated parcels that, if they are remediated, are likely to generate significant revenues or commercial activity to aid in local economic recovery.

The priorities DoD sets for cleaning up defense facilities scheduled to be closed could also reflect the relative economic impact on them. DoD and the Congress could assign higher priority to remediating commercially viable defense properties in locales that have been particularly hard hit by the closing of military facilities. That approach would favor cleaning up bases in small communities heavily dependent on their military installation, or cleaning up facilities in large communities affected by numerous base closings that, taken individually, might not be viewed as having a significant impact on the local economy.

DoD and the Congress could also control near-term spending by choosing to delay costly remediation projects, such as cleaning up unexploded ordnance and contaminated groundwater, that do not pose an immediate threat to human health and safety. Delaying remediation of these types of contaminants at sites where public health and safety would not be endangered by doing so could save billions of dollars in the short term. Delays, however, could require renegotiating existing agreements between DoD, EPA, and state regulatory authorities.

According to recent figures, the Army has identified about 1,700 sites covering tens of thousands of acres contaminated by ordnance and chemical warfare materials. Assuming an average cost of $65,000 per acre to remediate such property, delaying cleanup could enable DoD to reduce spending substantially in the near term, perhaps by billions of dollars. Of course, DoD must clean up such properties at some point in the future, but significant net savings in the long term could be possible if, in the interim, the department developed less costly methods of remediation.

Similarly, in certain cases, DoD could achieve significant savings in the long term by delaying remediation of contaminated groundwater until less

costly methods were developed. Delays would be appropriate, however, only at sites where doing so would not endanger public health and safety. Based on 1991 cost estimates, DoD could reduce near-term spending by hundreds of millions of dollars by delaying the cleanup of such sites.[3] If new technologies currently in development prove effective, costs of characterization and remediation could be reduced by 50 percent or more.

In some cases, delaying the cleanup of groundwater could raise costs if cheaper methods of remediation were not perfected and a hiatus permitted contamination to increase or spread. The department remains liable for cleaning up contaminated groundwater in any event and would have to characterize, sample, and monitor the site before resuming remediation. The department might also have to supply fresh water to tenants of base property or to property owners in the locale who would be affected. The funding needed to support this approach could exceed savings gained in the near term as a result of delaying remediation. Cost analyses could assist in determining the advisability of such delays.

APPROACHES FOR CONTROLLING LONG-TERM COSTS

Since virtually all of DoD's cleanup work has yet to be done, the prospects for savings in the long term lie in developing less expensive methods of remediation. Many research projects now in the laboratories or being tested in the field are providing results that foreshadow lower costs. According to current DoD estimates, for example, new technologies for cleaning up metals in contaminated groundwater could reduce costs from as high as $40 to as low as 10 cents per thousand gallons; and for metals in contaminated soils, from as high as $250 to as low as $20 per ton. DoD estimates that it might be able to cut the cost of remediating buried ordnance by 33 percent using technology now being developed.

New technologies for studying contaminated sites could also achieve significant savings. For example, new penetrometer technologies could reduce the cost of surveying property containing buried ordnance from $5,000 to as low as $600 per acre. New well-drilling techniques could reduce sampling costs from $280 to as low as $10 per well-foot. Of course, those estimates are preliminary and require additional testing and application to confirm their validity. However, they are based on laboratory and field tests that suggest potential savings of those magnitudes. Table 6 summarizes potential savings

3. Department of Defense, *Installation Restoration Program Cost Estimate* (September 1991), pp. 24-27. The estimate cited is based on costs for remediating 63 sites that have contaminated groundwater.

for future technologies for remediating, characterizing, or detecting various types of contaminants.

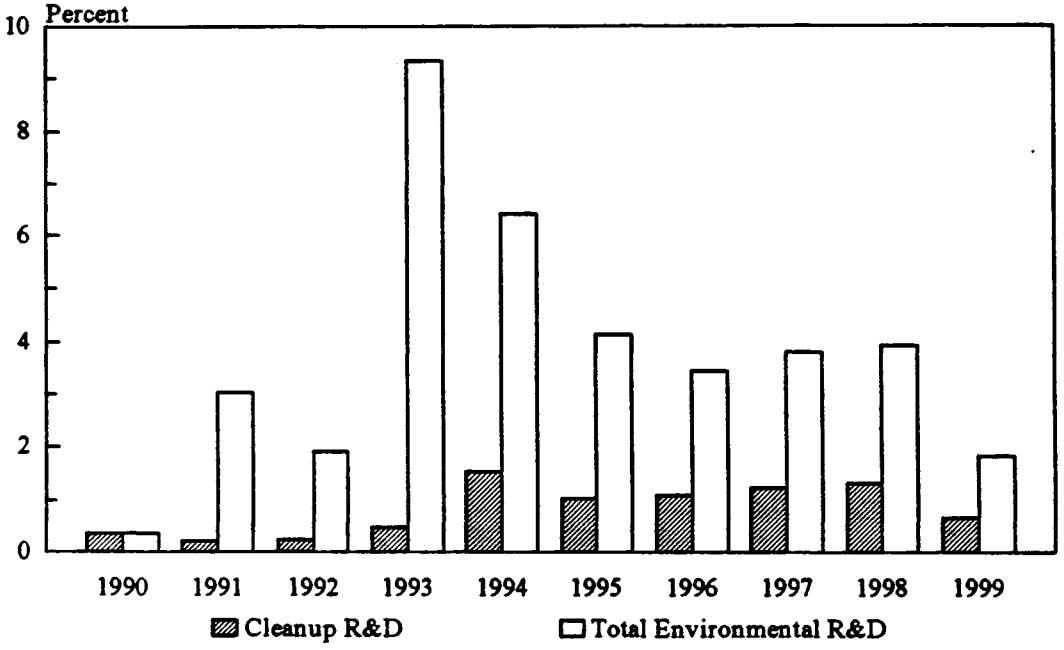
Can DoD afford to make additional investment in long-term solutions? Given the estimates of future budgets and the magnitude of potential savings, perhaps it cannot afford not to. Moreover, funding for environmental research and development has been quite modest. In 1991, the Congress authorized $86 million for environmental R&D, only about 3 percent of DoD's total funding for environmental programs. Although environmental R&D funding has increased since then in absolute terms, since 1993 it has decreased as a portion of overall spending on environmental programs (see Figure 5). The department spent about $357 million on environmental R&D in 1994--slightly more than 6 percent of all environmental spending.

TABLE 6. ESTIMATED COSTS OF CURRENT AND EMERGING ENVIRONMENTAL TECHNOLOGY

Contaminant	Current Technology	Emerging Technology
Explosives/Organics		
In soil (Per ton)	$350 to $1,500	$30 to $400
In groundwater (Per 1,000 gallons)	$1 to $5	$0.02 to $2
Heavy Metals		
In soil (Per ton)	$75 to $250	$20 to $200
In groundwater (Per 1,000 gallons)	$0.10 to $40	$0.10 to $2
Characterization/Detection of Unexploded Ordnance (Per acre)	$5,000	$600 to $1,600
Unexploded Ordnance (Per acre)	$60,000	$40,000 to $50,000
Characterization/Detection of Contamination in Soil and Groundwater (Per well-foot)	$100 to $280	$10 to $40

SOURCE: Congressional Budget Office using data from the Department of Defense.

FIGURE 5. DoD's SPENDING ON CLEANUP R&D AND TOTAL ENVIRONMENTAL R&D AS A PERCENTAGE OF DoD's TOTAL ENVIRONMENTAL BUDGET, 1990-1999



SOURCE: Congressional Budget Office using data from the Department of Defense.

NOTES: Data for 1995 through 1999 are CBO projections.
R&D = research and development.

The department allocates only about one-quarter of its spending on environmental research and development to investigating new cleanup technologies. DoD spent about $84 million (or 23 percent) in 1994 on studying new cleanup techniques. The department plans to spend even less in 1995--about $57 million--though cleanup R&D's share of all R&D spending will remain about the same. The rest of environmental R&D spending is allocated to the Strategic Environmental Research and Development Program and for defense research on compliance, pollution prevention, conservation, and other programs.

Last year, the Congress supported a major increase in spending for DoD's environmental research and development efforts. DoD requested $100 million for the Strategic Environmental Research and Development Program; the Congress authorized $153 million. This year, the Congress authorized DoD's request for $112 million, but appropriated only $62 million because that program's account had large unobligated balances in 1993 and 1994.

Whatever the cause of delays in obligating funds, ample opportunities exist for investment in research and development. According to DoD's Tri-Service Environmental Quality R&D Strategic Plan, many R&D projects remain unfunded. In 1994, for example, DoD estimated that R&D projects could have used an additional $277 million. If the Congress had authorized those additional funds, spending for R&D would have increased to about 11 percent of total spending on environmental programs. Funding for additional R&D projects could help reduce long-term costs, but should be reviewed and coordinated with related projects funded by either the Department of Energy or the Environmental Protection Agency.

Since virtually all of DoD's remediation work has yet to be done, now could be an opportune time to reconsider the government's approach toward setting cleanup standards. Current policy, as set forth in CERCLA, states that federal agencies should select strict cleanup standards that favor permanent solutions to contamination problems.[4] Some people believe that "permanent solutions" are those that ensure unlimited use of property in the future. Unlimited use requires that the strictest cleanup standards be applied, even if they are not needed to permit reuse of a contaminated site. Unlimited use, for example, could require meeting strict cleanup standards appropriate for a residential development or a day care center, as opposed to standards for industrial use or an operational airport.

4. 42 U.S.C. 9621.

Since meeting stricter cleanup standards is considerably more expensive than fulfilling less demanding ones, a new approach that sets standards on the basis of anticipated future land uses could result in significant savings in cleanup costs. Indeed, some Members of Congress favor an approach that would permit the government to set standards reflecting the reasonably anticipated future use of a property. The government could set such standards when a more stringent standard has not been set through legislation or regulation or is not appropriate because of special circumstances of the cleanup site.

Under this approach, the federal government could adopt generic cleanup standards for specific hazardous substances or contaminants that would meet national cleanup goals intended to protect human health and the environment.[5] Doing so would create uniform cleanup standards applicable to all regions and thus would preempt disagreement--sometimes generated by differences between the Resource Conservation and Recovery Act and CERCLA--among federal agencies and state regulators over appropriate standards. Establishing generic standards could be quite difficult, however, since scientific opinions would probably vary regarding optimal generic standards covering different regions and different circumstances.

How much could be saved by revising the government's approach to setting cleanup standards? At this stage of the cleanup program, when relatively few sites have entered the final stages of the process, no reliable comprehensive estimates are possible. Certain cases, however, suggest that the magnitude of potential savings for seriously contaminated sites could be quite significant. The cost of cleaning up Fort Meade, Maryland, for example, was reduced considerably when federal and state authorities agreed that standards for unlimited use were inappropriate and that part of a former artillery practice range could be used as a wildlife preserve. DoD originally estimated that remediating the base, including a large tract of land contaminated with unexploded ordnance and related metals, would cost almost $55 million. By agreeing to use the property as a game preserve and setting cleanup standards appropriate to that use, DoD expects to save about $30 million--more than half--in cleanup costs.

Similar savings might be possible at other facilities featuring munitions testing and storage, such as Jefferson Proving Ground, Indiana. Based on current costs of remediation, cleaning up more than 55,000 acres of contaminated property on the base could cost billions. However, DoD's current plan,

5. Superfund Reform Act of 1994, S. 1834, 103rd Cong., 2nd Sess., p. 104.

which sets aside large parcels of property for use as a preserve, estimates that costs will amount to only about $70 million.